

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 September 2001 (20.09.2001)

PCT

(10) International Publication Number
WO 01/68583 A3

(51) International Patent Classification?: C07C 67/38, 69/24, 69/44, B01J 31/24, C07C 51/14

(21) International Application Number: PCT/EP01/02908

(22) International Filing Date: 14 March 2001 (14.03.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
00200927.2 14 March 2000 (14.03.2000) EP
00309654.2 1 November 2000 (01.11.2000) EP

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

(88) Date of publication of the international search report:
25 April 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR THE CARBONYLATION OF ETHYLENICALLY UNSATURATED COMPOUNDS

(57) Abstract: Process for the carbonylation of ethylenically unsaturated compounds having 3 or more carbon atoms by reaction with carbon monoxide and an hydroxyl group containing compound in the presence of a catalyst system. The catalyst system includes (a) a source of palladium cations; (b) a bidentate diphosphine of formula (I): $R^1R^2 > P - R^3 - R - R^4 - P < R^5R^6$, wherein P represents a phosphorus atom; R^1 , R^2 , R^5 and R^6 independently represent the same or different optionally substituted organic groups containing a tertiary carbon atom through which the group is linked to the phosphorus atom; R^3 and R^4 independently represent optionally substituted alkylene groups and R represents an optionally substituted aromatic group; (c) a source of anions derived from an acid having a pKa less than 3, as measured at 18 °C in an aqueous solution. The process is carried out in the presence of an aprotic solvent.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/02908

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07C67/38 C07C69/24 C07C69/44 B01J31/24 C07C51/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07C B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BEILSTEIN Data, CHEM ABS Data, EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 227 160 A (SHELL INT RESEARCH) 1 July 1987 (1987-07-01) column 1, line 22 - column 4, line 16 column 5, line 22 - line 41 examples 1,3,8,9 ----	1-10
A	EP 0 662 467 A (DSM NV ;DU PONT (US)) 12 July 1995 (1995-07-12) the whole document ----	1
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☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

17 October 2001

Date of mailing of the international search report

05/11/2001

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 01/02908

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